

Amendments to the Claims:

Please AMEND Claims 1, 31, 51 and 57 such that the pending claims will read as follows:

Claim 1 (Currently amended): An apparatus for opening a substrate carrier comprising:

a substrate transfer location having a support adapted to support a substrate carrier and an actuator mechanism positioned relative to the support so as to interact with an opening mechanism of a substrate carrier supported by the support;

wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier so as to employ a movement of the substrate carrier to actuate opening of the substrate carrier;

wherein the support is a docking platform and the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier so as to employ a docking movement of the substrate carrier to actuate opening of the substrate carrier;

a sensor adapted to sense a condition indicative of air flow directed so as to flow laminarly past a the substrate carrier positioned on the docking platform; and

a controller coupled to the sensor and the docking platform and adapted to move the docking platform so as to close a substrate carrier supported thereon if the sensor detects loss of the laminar air flow.

Claims 2-3 (Canceled).

Claim 4 (Original): The apparatus of claim 1, further comprising at least one substrate carrier storage shelf associated with the substrate transfer location.

Claim 5 (Original): The apparatus of claim 4, wherein the at least one storage shelf is located vertically above the substrate transfer location.

Claim 6 (Original): The apparatus of claim 1, wherein the substrate transfer location includes a tunnel adapted to direct a laminar air flow past a substrate carrier docked at the substrate transfer location.

Claim 7 (Original): The apparatus of claim 1, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier so as to employ a second movement of the substrate carrier to actuate closing of the substrate carrier.

Claim 8 (Original): The apparatus of claim 1, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier via a cam follower arrangement.

Claim 9 (Original): The apparatus of claim 8, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier via a magnetic cam follower arrangement.

Claim 10 (Original): The apparatus of claim 1, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier to pivot a door of the substrate carrier.

Claim 11 (Original): The apparatus of claim 10, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier to pivot the door downwardly.

Claim 12 (Original): The apparatus of claim 10, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier to pivot a pair of doors of the substrate carrier in opposite directions.

Claim 13 (Original): The apparatus of claim 1, wherein the actuator mechanism is adapted to unlatch an openable portion of the substrate carrier.

Claim 14 (Original): The apparatus of claim 13, wherein the actuator mechanism is adapted to unclamp a substrate contained in the substrate carrier.

Claim 15 (Original): The apparatus of claim 1, wherein the actuator mechanism is adapted to unclamp a substrate contained in the substrate carrier.

Claims 16-17 (Canceled).

Claim 18 (Original): The apparatus of claim 1, wherein the movement of the substrate carrier employed to actuate opening of the substrate carrier is a movement toward a processing tool associated with the substrate transfer location.

Claim 19 (Original): The apparatus of claim 1, wherein the substrate transfer location includes a port through which a substrate is transferred.

Claim 20-30 (Canceled).

Claim 31 (Currently amended): A system for opening a substrate carrier, comprising:

- a substrate carrier having an openable portion, and having an opening mechanism coupled to the openable portion;

- a substrate transfer location having a support adapted to support the substrate carrier, and an actuator mechanism positioned relative to the support so as to interact with the opening mechanism coupled to the openable portion of the substrate carrier;

- wherein the actuator mechanism of the substrate transfer location and the opening mechanism of the substrate carrier are adapted to interface with each other so as to employ movement of the substrate carrier to achieve opening and closing of the substrate carrier;

- wherein the support is a docking platform and the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier so as to employ a docking movement of the substrate carrier to actuate opening of the substrate carrier;

- a sensor adapted to sense a condition indicative of air flow directed so as to flow laminarly past a the substrate carrier supported by the docking platform; and

- a controller coupled to the sensor and the docking platform and adapted to move the docking platform so as to close a substrate carrier supported thereby if the sensor detects loss of the laminar air flow.

Claim 32 (Original): The system of claim 31, wherein the substrate transfer location further comprises a port through which substrates may be transferred.

Claims 33-35 (Canceled).

Claim 36 (Original): The system of claim 31, further comprising at least one substrate carrier storage shelf associated with the substrate transfer location.

Claim 37 (Original): The system of claim 36, wherein the at least one storage shelf is located vertically above the substrate transfer location.

Claim 38 (Original): The system of claim 31, wherein the substrate transfer location includes a tunnel adapted to direct a laminar air flow past a substrate carrier positioned at the substrate transfer location.

Claim 39 (Original): The system of claim 31, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier via a cam follower arrangement.

Claim 40 (Original): The system of claim 39, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier via a magnetic cam follower arrangement.

Claim 41 (Original): The system of claim 31, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier to pivot a door of the substrate carrier.

Claim 42 (Original): The system of claim 41, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier to pivot the door downwardly.

Claim 43 (Original): The system of claim 41, wherein the actuator mechanism is adapted to interface with the opening mechanism of the substrate carrier to pivot a pair of doors of the substrate carrier in opposite directions.

Claim 44 (Original): The system of claim 31, wherein the actuator mechanism is adapted to employ movement of the substrate carrier to unlatch an openable portion of the substrate carrier.

Claim 45 (Original): The system of claim 44, wherein the actuator mechanism is adapted to employ movement of the substrate carrier to unclamp a substrate contained in the substrate carrier.

Claim 46 (Original): The system of claim 31, wherein the actuator mechanism is adapted to employ movement of the substrate carrier to unclamp a substrate contained in the substrate carrier.

Claim 47-48 (Canceled).

Claim 49 (Original): The system of claim 31, wherein the movement of the substrate carrier employed to actuate opening of the substrate carrier is a movement towards a processing tool associated with the substrate transfer location.

Claim 50 (Original): The system of claim 31, wherein the substrate transfer location includes a port through which a substrate is transferred.

Claim 51 (Currently amended): A system for opening a substrate carrier, comprising:

a port adapted to have a substrate transferred therethrough;

a first mechanism adapted to move a substrate carrier toward the port; and

a second mechanism adapted to translate motion of the substrate carrier toward the port into a force for opening a door of the substrate carrier;

a sensor adapted to sense a condition indicative of air flow directed so as to flow laminarly past a the substrate carrier supported by the first mechanism; and

a controller coupled to the sensor and the first mechanism and adapted to move the first mechanism so as to close a substrate carrier supported thereby if the sensor detects loss of the laminar air flow.

Claim 52 (Original): The system of claim 51, wherein the first mechanism includes a docking platform adapted to move a substrate carrier supported thereon toward the port.

Claim 53 (Original): The system of claim 51, wherein the second mechanism includes a cam mounted adjacent the port and a cam follower coupled to the door of the substrate carrier.

Claim 54 (Original): The system of claim 51, wherein the force for opening a door of the substrate carrier comprises a force for pivoting the door on a hinge mounted on the substrate carrier.

Claim 55 (Original): The system of claim 51, wherein the port is a port formed in a clean room wall.

Claim 56 (Canceled).

Claim 57 (Currently amended): A method of opening a substrate carrier, comprising:

moving a substrate carrier on a docking platform toward a port that is adapted to have a substrate transferred therethrough;

translating motion of the substrate carrier toward the port into a force for opening a door of the substrate carrier;

sensing a condition indicative of air flow directed so as to flow laminarly past a the substrate carrier supported by the docking platform; and

moving the docking platform so as to close a substrate carrier supported thereby if loss of the laminar air flow is sensed.

Claim 58 (Previously presented): The method of claim 57, wherein the moving step comprises moving the docking platform toward the port.

Claim 59 (Original): The method of claim 57, wherein the translating step includes contacting a cam follower coupled to the door with a cam mounted adjacent the port.

Claim 60 (Original): The method of claim 57, wherein the translating step includes exposing a magnet coupled to the door to a magnetic field generated by a magnet mounted adjacent the port.

Claim 61 (Original): The method of claim 57, wherein the opening of the door includes pivoting the door on a hinge mounted on the substrate carrier.

Claim 62 (Original): The method of claim 61, wherein the opening of the door includes pivoting the door downwardly.



Claim 63 (Original): The method of claim 57, wherein the translating step includes translating the motion of the substrate carrier into respective forces for opening two doors of the substrate carrier.

Claim 64 (Previously presented): A method of opening a substrate carrier, comprising:

- moving a substrate carrier using a docking platform;
- translating the motion of the substrate carrier into respective forces for opening two doors of the substrate carrier;
- sensing a condition indicative of air flow directed so as to flow laminarly past a substrate carrier supported by the docking platform; and
- moving the docking platform so as to close a substrate carrier supported thereby if loss of the laminar air flow is sensed.

Claim 65 (Previously presented): The method of claim 64, wherein the translating step includes contacting with a cam, respective cam followers coupled to the doors.

Claim 66 (Original): The method of claim 65, wherein the translating step includes exposing to a magnetic field respective magnets coupled to the doors.